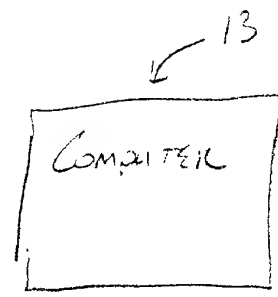


FIG. 1 PRIOR ART

The diagram illustrates a hydraulic system for a pump. A **D.I. WATER SUPPLY** feeds into a **VALVE (45)**, which is connected to a **LEVEL SENSOR** (15). The supply line continues through a **PINCH VALVE** (40) into a **SUPPLY TANK** (14). From the supply tank, the line passes through a **COMPLIANCE CHAMBER** (38) and a **FLOW METER** (36) before reaching **VALVE #3** (34). The line then splits: one path goes through **VALVE #2** (30) to a **PUMP** (24), and the other path goes through **VALVE #1** (28) to a **DRAIN TANK** (53). The **PUMP** is controlled by a **PUMP AMPLIFIER** (26), which receives a **PUMP POSITION** signal and provides a **POSITION INPUT**. The **DRAIN TANK** has a **LEVEL SENSOR** (62) and is connected to a **SUMP PUMP** (62) that leads **TO DRAIN**. The system also includes a **SLIDE** (42) with a **BLEED VALVE** (56) and a **CHECK VALVE** (16). Pressure monitoring is provided by a **HIGH PRESSURE DIFFERENTIAL** (52) and a **LOW PRESSURE DIFFERENTIAL** (201) sensor, both connected to a **POSITION INPUT** (200). A **4-WAY** valve (43) is also shown. The **PUMP** is connected to a **DRAIN TANK** (53) via a line (21) that includes a **VALVE #1** (28) and a **VALVE #2** (30). The **DRAIN TANK** is connected to a **SUMP PUMP** (62) which leads **TO DRAIN**. The **SUMP PUMP** is controlled by a **LEVEL SENSOR** (62) and a **POSITION INPUT** (200). The **PUMP** is controlled by a **PUMP AMPLIFIER** (26) which receives a **PUMP POSITION** signal and provides a **POSITION INPUT** (200). The **PUMP** is connected to a **DRAIN TANK** (53) via a line (21) that includes a **VALVE #1** (28) and a **VALVE #2** (30). The **DRAIN TANK** is connected to a **SUMP PUMP** (62) which leads **TO DRAIN**. The **SUMP PUMP** is controlled by a **LEVEL SENSOR** (62) and a **POSITION INPUT** (200).



COMPUTER

COMPTON

## LEVEL SENSOR

**SUMP  
PUMP**

**TO DRAIN**

DRAIN  
TANK

## D.I. WATER SUPPLY

VALVE (45)

**LEVEL  
SENSOR**

PINCH  
VALVE

SUPPLY  
TANK

HECK  
ALVE

VALVE #4

VALVE

PUMP

**PUMP  
AMPLIFIER**

**POSITION  
INPUT**

## PUMP POSITION

COMPLIANCE  
CHAMBER

FLOW METER

VALVE #3

## SLIDE

34

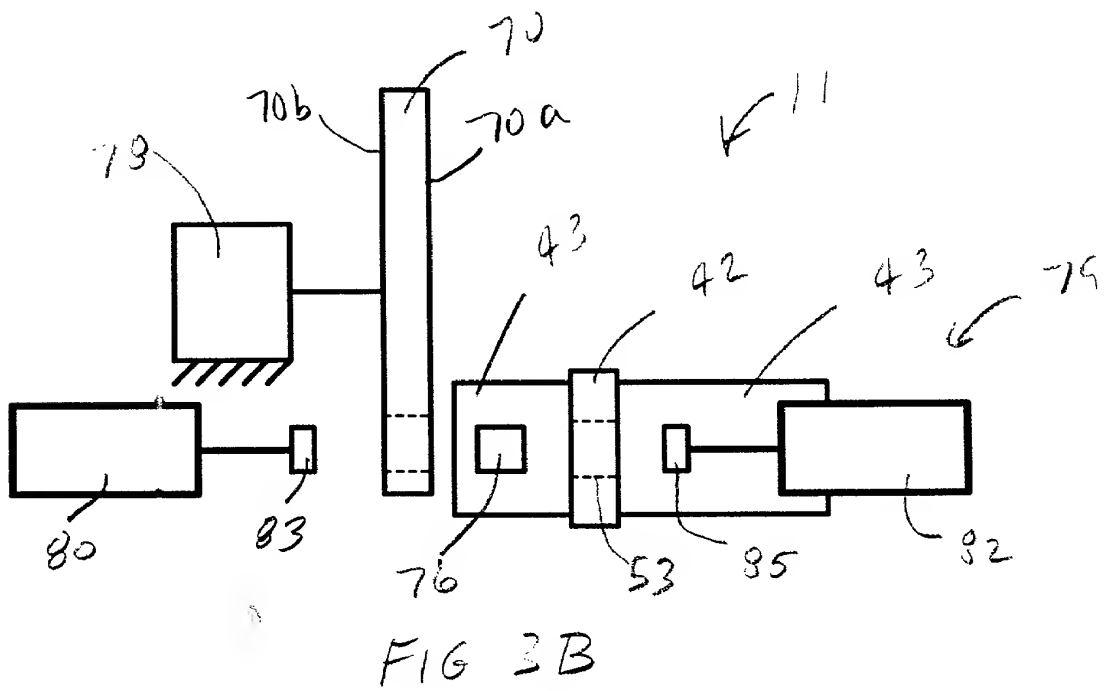
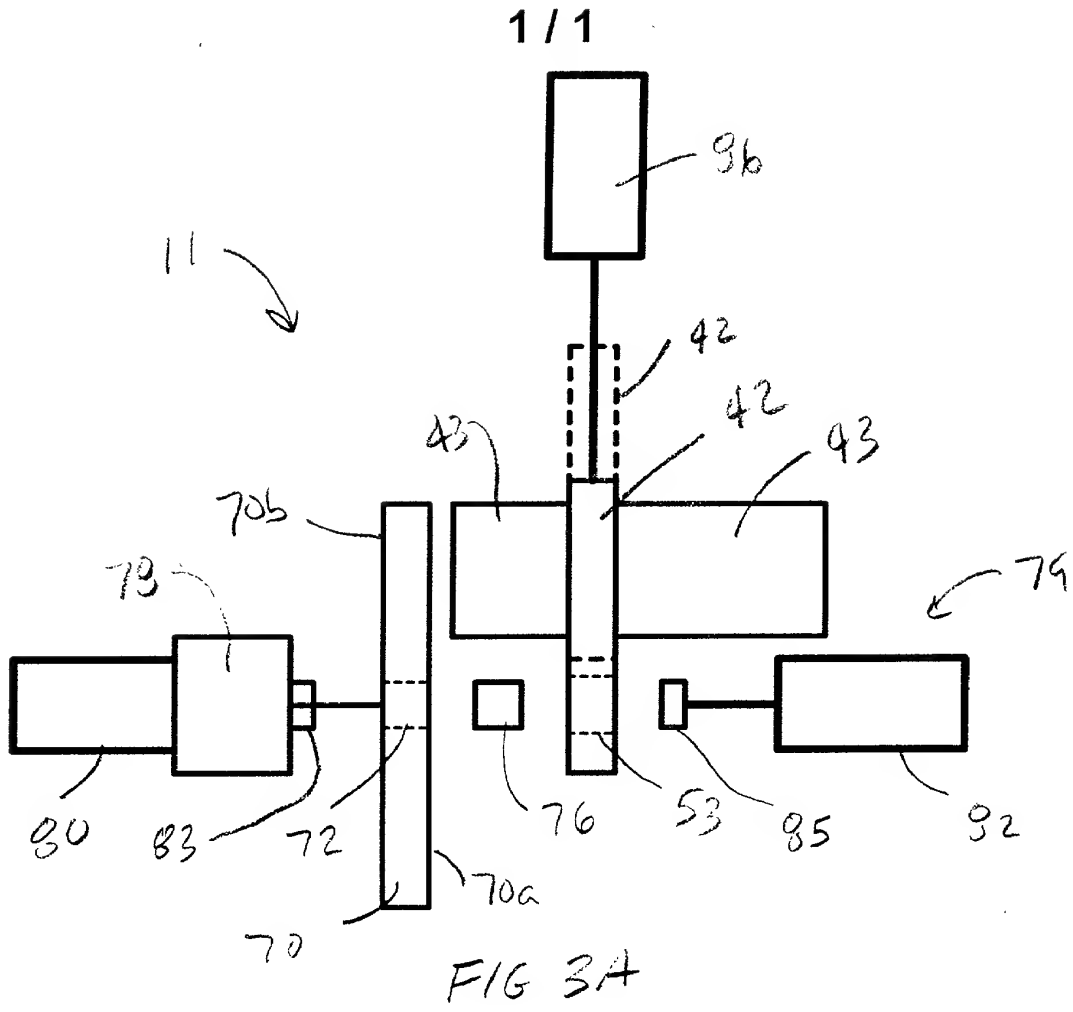
VALVE #1 ☐

TO PRESSURE  
(TO ATMOSPHERE)

6

FIG 2

FIG. 3A



09933590 400004

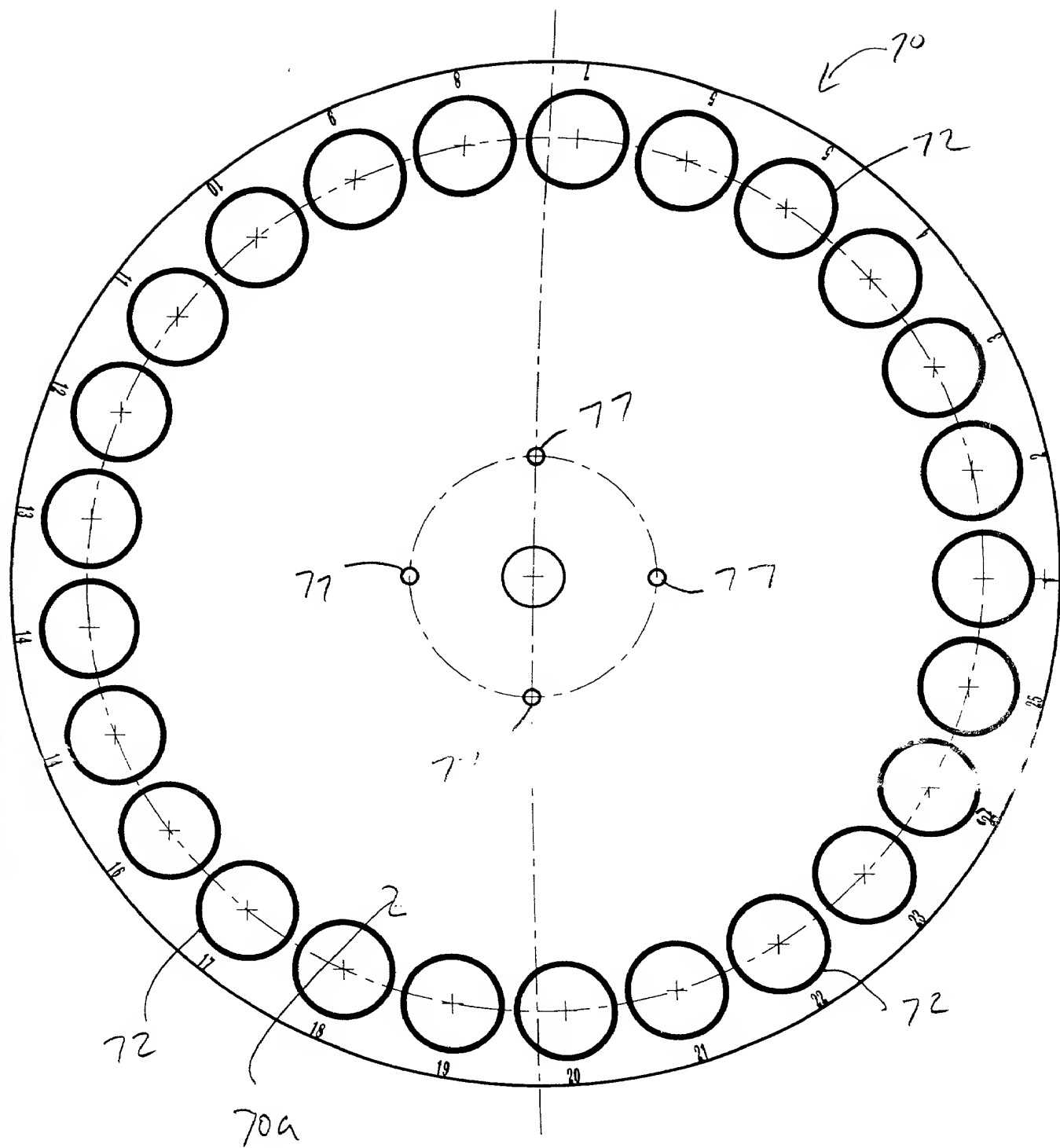


FIG 3C

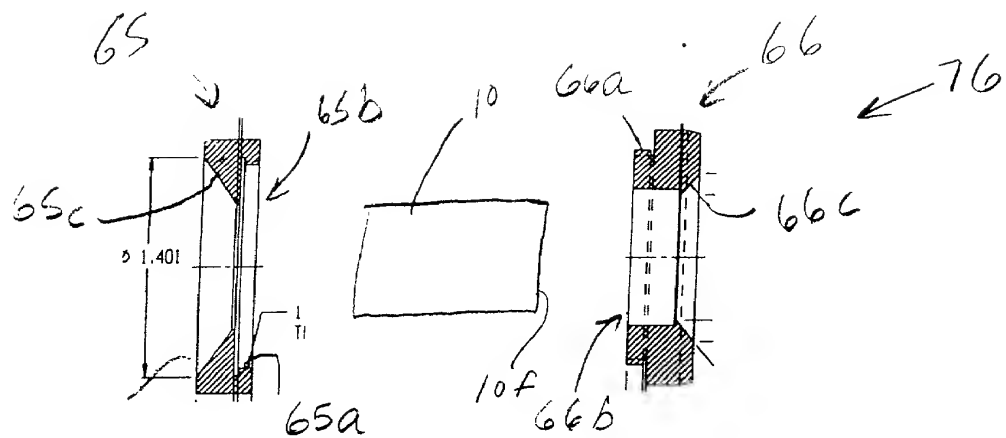


FIG 3 D

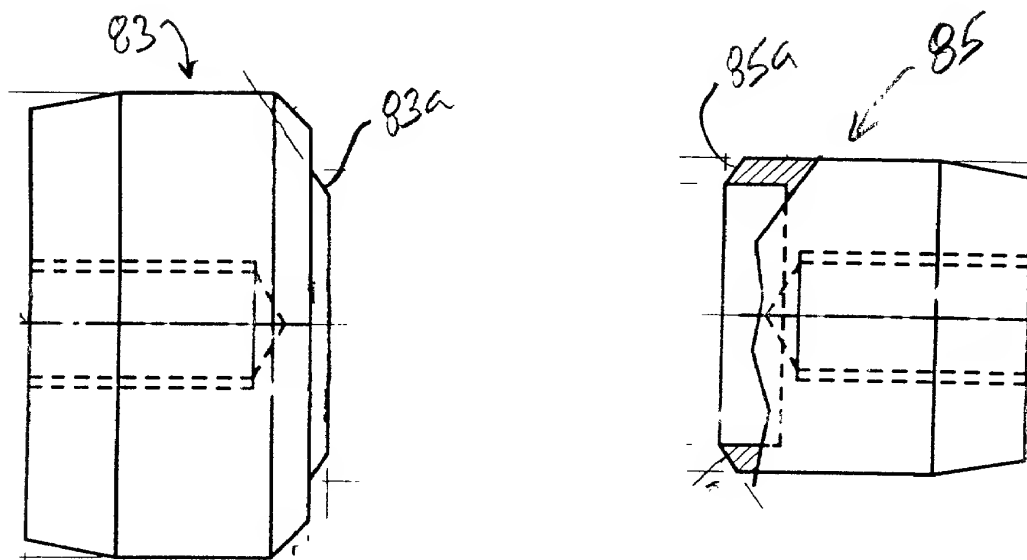
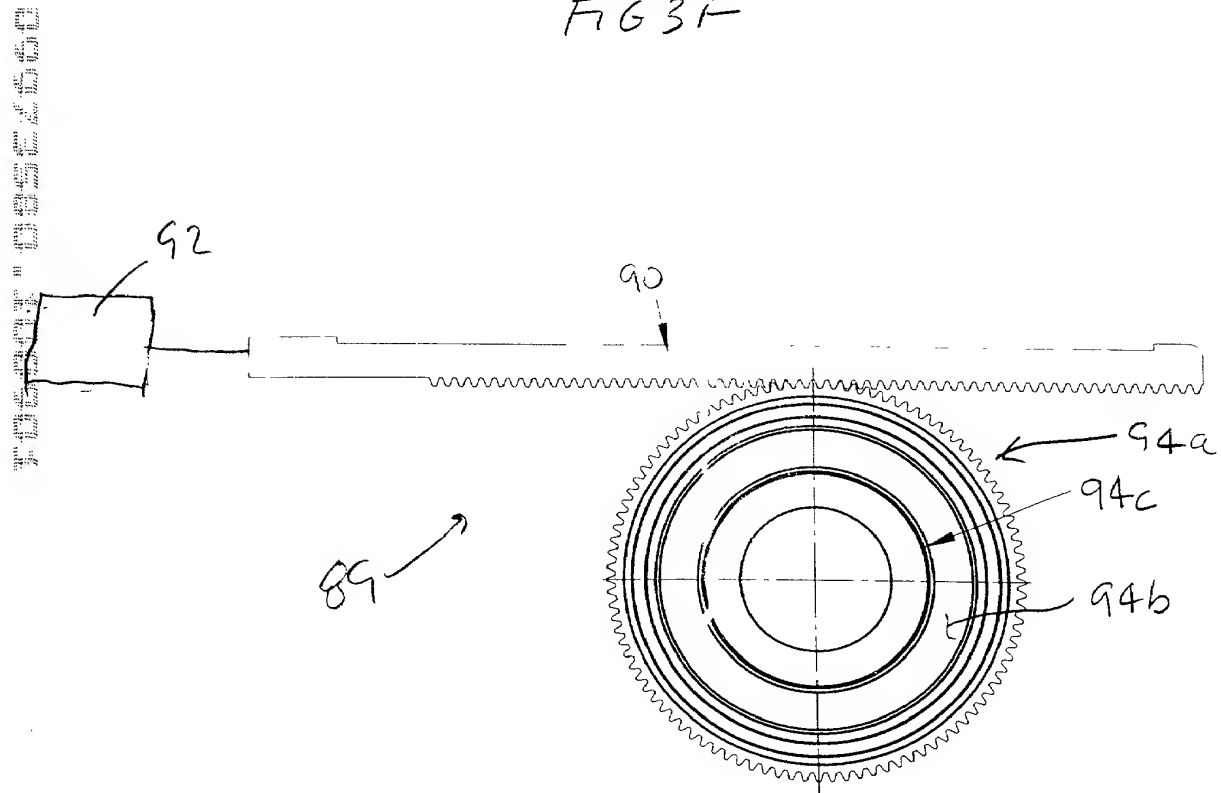
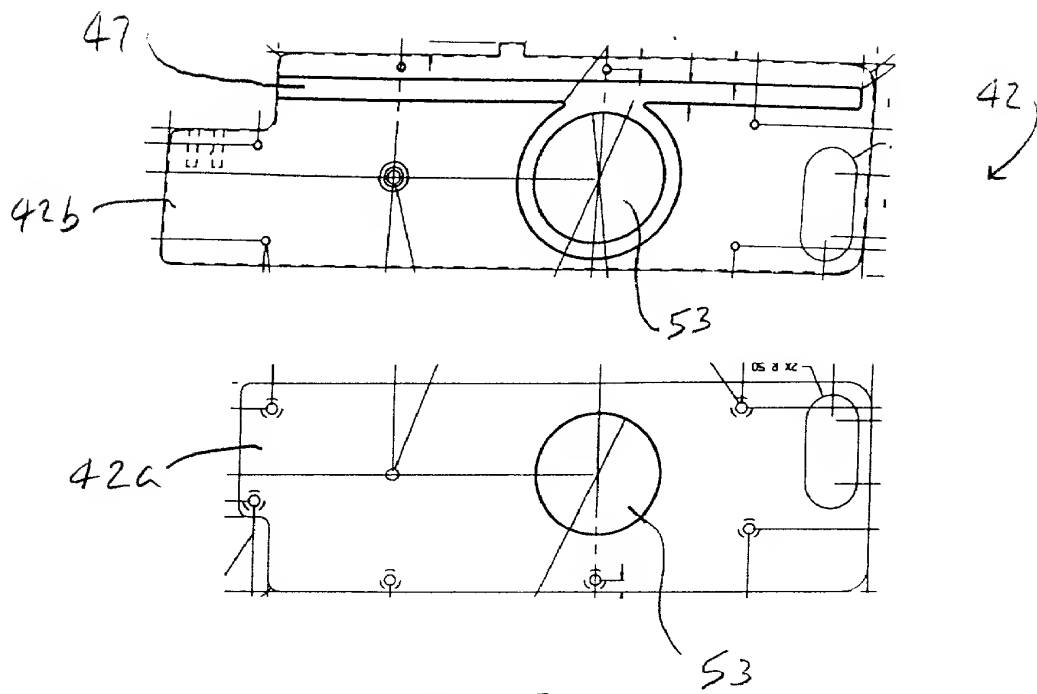


FIG 3 E



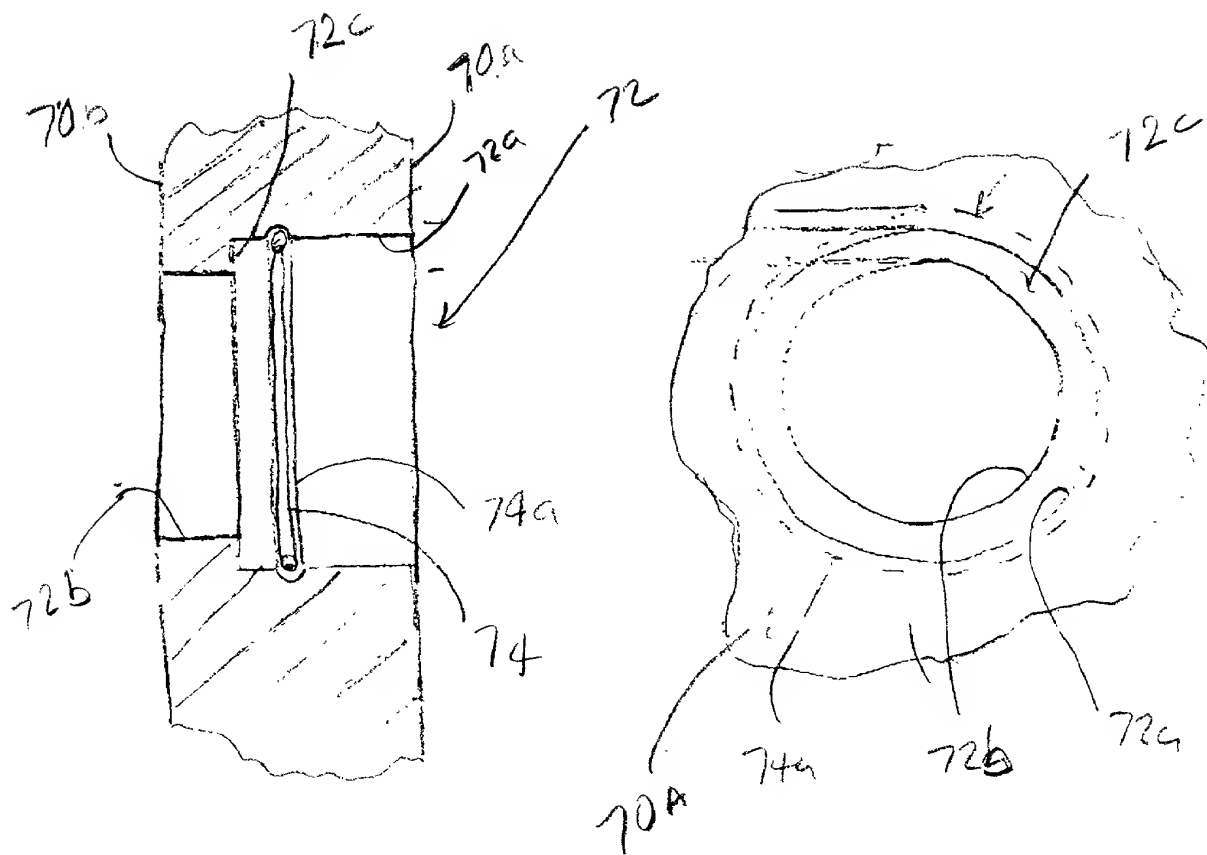


FIG 3H

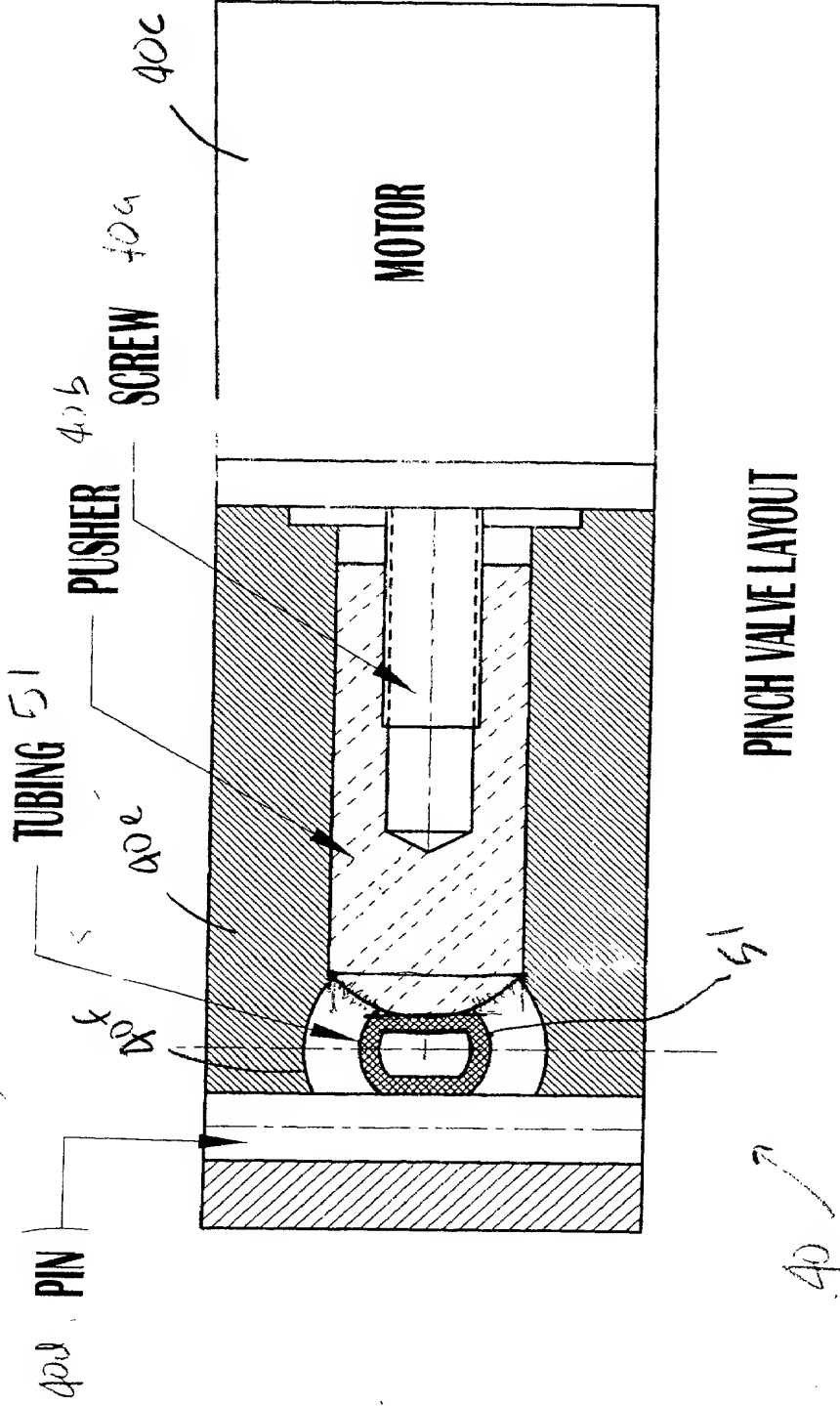


FIG 3I



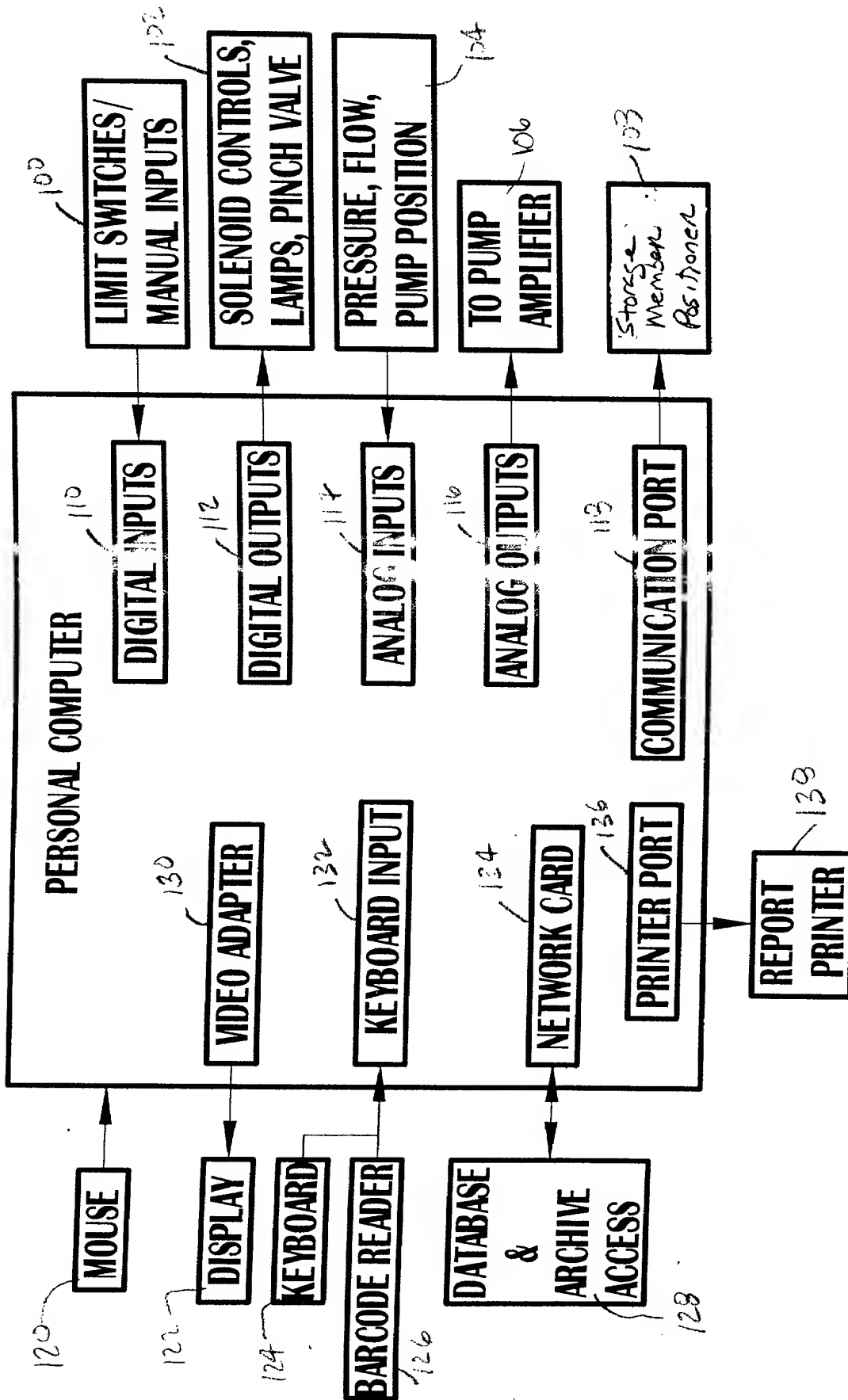


FIG 4